

A Straw Set with A Ventilating Structure

FIELD OF THE INVENTION

5 The present invention relates to a straw set, and more particularly to a straw set having a ventilating structure thereon to balance of inner pressure and outer pressure of a baby bottle to keep a nipple up at any time.

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BACKGROUND OF THE INVENTION

Depending on the improvement of infant nutritional evaporated milk, an infant is not only having breast-feeding but also needed infant nutritional
15 evaporated milk to enrich the nutrient of a infant's growth. The common way of using evaporated milk is bottle-feeding, i.e. put proper quantity of evaporated milk into one bottle with warm water and then insert one nipple into the sealing-ring and seal the
20 sealing-ring to a opening of the bottle to fix the nipple on the opening of the bottle. After one shakes the bottle, evaporated milk is dissolved in warm water, and a infant sucks milk from a drawing hole of the nipple. Because the nipple covers the opening of the bottle, the only
25 path to the inner part of the bottle contacts with the

outer world is through the drawing hole. When an infant
sucks milk, he/she also draws out air inside the bottle,
therefore, the air pressure in the bottle decreases
accordingly. As the outer air pressure is far higher
5 than the one in the bottle, the air pressure in the
bottle is not high enough to keep flatten nipple up
to be sucked continuously. An infant has to open his/her
mouth to make outer air come in the bottle through the
drawing hole to make the air pressure inside the bottle
10 high enough to keep flatten nipple up, and then puts
the nipple to an infant's mouth to make him/her suck.
Above processes must be repeated until an infant
finishes sucking milk. Therefore, adults have to give
an infant a hand continuously to feed him/her. And it
15 is a very inconvenient thing.

SUMMARY OF THE INVENTION

A primary object of the present invention is to provide
20 a straw set with a ventilating structure, which makes
air outside the bottle pass to inside and maintain the
air pressure inside the bottle equal with one outside
to keep a nipple from being flatten.

Another object of the present invention is to provide
25 a nipple with a air-guiding structure, which has a

circular air guiding trench to guide outer air through an air-hole to the bottle inside to balance the air pressure outside and the one inside.

Still another object of the present invention is to
5 provide a straw base with an outer circle, an inner circular wall, and a solid pipe, which a nipple is placed on the outer circle and fixed by the inner circular wall to make milk flow through the solid pipe into the nipple to let an infant suck.

10 Still another object of the present invention is to provide a soft plastic circle with a through hole, an air guiding trench, and an air-hole, which pastes up to the straw base to prevent milk from leakage, and outer air is guided into the bottle through the air
15 guiding trench and the air hole to equivalent the air pressure outside to the one inside.

Still another object of the present invention is to provide a soft straw with a head, which can touch any milk in the bottle.

20 To achieve the above objects, a straw set with a ventilating structure of the present invention mainly includes a nipple with a sucking part connected to a circular base, upper surface of the circular base having a first circular air guiding trench, a first air hole
25 passed through the upper surface and the bottom surface

of the circular base, and a chamber located in the bottom surface of the circular base and having two axles expand under the bottom surface; a straw base having a first inner circular wall to fix the nipple bottom, a first
5 outer circle closed to the bottom surface of the circular base, a second circular air guiding trench concaved between the inner circular wall and the outer circle, and a solid pipe below the straw base; and a soft plastic circle having a base to support the straw base, a through
10 hole at the center of the base, a second outer circle expanded upward from the edge of the base to close to the first outer circle, a air guiding trench expanded downward from the edge of the second outer circle, a second air hole located at the base side of the air
15 guiding trench, and the second air hole passed through the upper surface and the bottom surface of the base.

BRIEF DESCRIPTION OF THE DRAWINGS

20 The structure and the technical means adopted by the present invention to achieve the above and other objects can be best understood by referring to the following detailed description of the preferred embodiments and the accompanying drawings, wherein

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Fig. 1 is an exploded perspective view of a straw set with a ventilating structure according to the present invention;

5 Fig. 2 is another exploded perspective view of a straw set with a ventilating structure of Fig. 1;

Fig. 3 is an assembled perspective view of a straw set with a ventilating structure of Fig. 1;

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Fig. 4 is a perspective view of an embodiment of Fig.1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

15 Referring to Fig.1, illustrated an exploded perspective view of the present invention. A straw set with a ventilating structure is mainly assembled by a nipple 10, a straw base 20, a soft plastic circle 30, and a soft straw 40. The nipple 10 is primarily
20 divided into a circular base 12 and a sucking part 18; the straw base 20 is primarily divided into a inner circular wall 22, a first outer circle 24, a second circular air guiding trench 26, and a solid pipe 28; the soft plastic circle 30 is primarily divided into
25 a through hole 302, a second outer circle 32, a air

guiding trench 34, a second air hole 36, and a base 38; the soft straw 40 further includes a head 42. The circular base 12 includes a first circular air guiding trench 122, a first air hole 14, and a chamber 16. The
5 first circular air guiding trench 122 is posited on the upper surface of the circular base 12. The first air hole 14 is passing through the upper surface and the lower surface of the circular base 12. The chamber 16 located in the bottom surface of the circular base
10 12 and having two axles 162 expand under the bottom surface. The sucking part 18 is connected with the circular base 12, and a drawing hole is located at the center of the sucking part 18. The inner circular wall 22 is located on the straw base 20. The first outer
15 circle 24 is located at the edge of the straw base 20. The solid pipe 18 is located at the center of the straw base 20. The second circular air guiding trench 26 is concaved between the inner circular wall 22 and the first outer circle 24. The through hole 302 is at the
20 center of the soft plastic circle 30. The second outer circle 32 is located at the edge of the soft plastic circle 30. The air guide trench 34 is expanded downward from the edge of the second outer circle 32 to the base 38. The second air hole 36 located at the base side
25 of the air guiding trench 34. The soft draw 40 includes

a head 42.

Referring to Fig.2 illustrated another exploded perspective view of the present invention. The sucking part 18 of the nipple 10 is placed into the sealing ring 50 with an opening 52, and the circular base 12 is supporting to the bottom surface of the cover 54. The straw base 20 is closing to the nipple 10, the inner circular wall 22 is supporting the sucking part's 18 bottom, the first outer circle 24 is closing to the base 12, the dish of the first air hole's 14 bottom and the axles 162 are partly displaced on the first outer circle 24 and partly displaced on the second circular air guiding trench 26. Air entered from the first air hole 14 to the chamber 16 through the second circular air guiding trench 26. The through hole 302 of the soft plastic circle 30 is passed by the solid pipe 28, and the soft plastic circle 30 is closing to the bottom surface of the straw base 20. The soft straw 40 is wrapped to the solid pipe 28. Then rotating the assembled straw set to the opening of the bottle 60. Because the soft plastic circle 30 is closing tightly to the bottle opening, milk will not flow out from the bottle opening. Fig.3 is illustrated an assembled perspective view of the present invention.

Please referring to Fig.4 illustrated a perspective

view of an embodiment of the present invention. When a infant sucks milk flowing through the soft straw 40 and sucking part 18 in the bottle from the drawing hole 182, outer air flows into the first circular air guiding trench 122 through the space between the nipple 10 and the cover 54, then the outer air is guided by the first circular air guiding trench 122 into the first air hole 14, then flows into the second circular air guiding trench 26, and flows into the chamber 16 through the second circular air guiding trench 16. Through the channel formed by axles 162, air flows into the air guiding trench 34, then flows into the bottle 60 through the second air hole 36 to maintain the air pressure in the bottle to a level which can support the pressure keeping a nipple flatten by sucking up. Adults needn't to pull the nipple 10 out from the infant's mouth. Furthermore, due to the design of soft plastic circle 36 closed tightly to the bottle opening, milk will not flow out under the bottle inversion. Due to the design of soft straw 40 with head 42, a infant can suck milk under the bottle inversion, and milk residual won't happen.

Therefore, the present invention takes the advantage of the design of the air hole and the air guiding trench to make the air pressures inside the

bottle and outside the bottle equal to support a nipple up to solve the disadvantage of the prior straw set which can not be sucked by a infant continuously.

Various details of the invention may be changed
5 without departing from its scope. Furthermore, the foregoing description of the preferred embodiments of the invention and the best mode for practicing the invention are provided for the purpose of illustration only and not for the purpose of limitation-the invention
10 being defined by the claims.